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PRIVATE SOLDIERS IN AFRICA:
A LOOK AT THE EFFECTS OF PRIVATE MILITARY CONTRACTORS AND
MERCENARIES ON THE DURATION OF CIVIL WARS IN AFRICA FROM 1960
TO 2003.

By
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A THESIS

Presented to the Faculty of
The Graduate College at the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Master of Arts

Major: Political Science

Under the Supervision of Professor Ross Miller

Lincoln, Nebraska

May, 2013

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University of Nebraska, 2013

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This paper examines the effect of private soldiers, both Mercenaries and Private Military Contractors (PMC), on the duration of civil wars in Africa from 1960 to 2003. Linear regression is used to determine if private soldiers increase or decrease the duration of civil wars. Ultimately it is found they have little to no statistical impact. This is contrary to the expectations of the theoretical literature on private military contractors, some of which expects private soldiers to profit from war and seek to lengthen duration, and some of which expects the use of additional private soldiers to shorten the duration of wars. Some discussion is given to examining why no strong statistical results were found, and some directions for future research are proposed.

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Chapter 1: Introduction

This thesis examines the effects of Private Military Contractors (PMC) and mercenaries on civil war duration. The question here is whether PMCs or mercenaries increase or decrease the duration of civil wars. The research design is a regression, run on 30 civil wars in Africa, 13 of which include PMCs, mercenaries, or both in some form. The key reason for the study of this subject is the need to determine what effects, if any, PMCs and mercenaries have on civil war duration. According to their advocates, because they are highly trained military specialists, PMCs are more likely to bring conflicts to a swift and conclusive end through a swift defeat of one side or the other. Their detractors, however, argues that PMC profit from war and have incentives to prolong conflicts, thus maximizing their income.

The issue of whether PMC reduce or increase the duration of wars is not simply a matter of academic concern, because if PMCs and mercenaries extend the duration of civil wars, then an argument can be built which condemns their use on humanitarian grounds. If use of private soldiers (PMCs and mercenaries) results in longer civil wars, it is important from a humanitarian standpoint to reduce or eliminate the use of these private soldiers. On the other hand, if use of PMCs and mercenaries decreases civil war duration, an argument can be made that those looking to end civil wars may want to take a closer look at these soldiers. If there is no effect, arguments for and against the use of PMCs and mercenaries will need to hinge on arguments other than the effects private soldiers might have on duration.

Civil war duration data is primarily obtained from Fearon (2004), but is expanded upon with other sources when necessary. Fearon (2004) also provides data which allow for the testing of alternative hypotheses. The alternatives tested in this paper were identified by Fearon (2004) and the models he created are used to test the new variables presented in this paper. The new variables being used to explain civil war duration are the presence or absence of PMCs or mercenaries, and the duration of PMC or mercenary presence. There are two hypotheses in this paper.

*H1: The **presence** of PMCs or mercenaries will affect civil war duration.*

In the first hypothesis, the direction of effect is not specified. Theoretical literature (Leander, 2005; Leander & Van Munster, 2007) generally hypothesizes that PMCs and mercenaries will extend the duration of civil wars. The general logic of such an assumption is that PMCs and mercenaries are private actors and have incentives to profit from civil war, and are thus likely to try to extend the civil war. There is no sense in “killing the goose which lays the golden eggs.” It is also possible that PMCs and mercenaries might shorten a civil war. It is possible that they will contribute to the ability of whichever side in a civil war hires them, to defeat the enemy. This assumes that an increase in the relative military capabilities of one will result in defeat sooner and therefore, a shorter civil war.

The null hypothesis in this situation is that the presence or absence of PMCs and mercenaries has no effect in either direction on the duration of civil war. Some possible explanations of such a finding can be speculated upon. It is possible that PMCs and

mercenaries are not hired in such numbers that they clearly affect the duration of a conflict. Perhaps PMCs and mercenaries do have an effect, but it is small or negligible. Another consideration is that PMCs have both positive and negative effects on civil war duration, but these effects cancel out each other in a quantitative study. In this case, a more qualitative approach needs to be pursued.

It is possible that longer employment means one side or the other has been using a PMC or mercenary groups for a longer period. If these groups are employed for a long-term contract, it may mean they are effectively combating the opposition. It may take a significant amount of time to defeat an opposition group, and the use of PMCs or mercenaries, especially if the PMCs or mercenaries are more professional and effective than local troops, might shorten the time spent fighting by hastening the defeat of the opposition. It is also possible there may be some sort of incentive structure which differs between private soldiers and state militaries. Private soldiers may have an incentive to accomplish a job quickly to establish a good reputation and get more contracts in the future. There may be an incentive to finish a contract quickly so they can move to the next contract. There might even be some sort of bonus in the contract for quick or early completion (Singer, 2003). State militaries with soldiers paid a set wage regardless of performance (or even effectively unpaid) are likely to experience a different incentive structure. These soldiers may simply want to survive the conflict, rather than engage the enemy. Differences in incentives may result in private soldiers ending conflicts faster than state militaries.

The key flaw in this hypothesis is the possibility that PMCs and mercenaries might be employed for longer periods of time in longer civil wars. To put it differently, it may be that some wars are long and happen to employ PMC or mercenaries for long periods of time. The hypothesis assumes that longer PMC or mercenary employment will affect civil war duration, but it is possible that longer civil wars affect the employment duration of PMCs and mercenaries. The flaw in this variable is the difficulty in determining with certainty the direction of the causal arrow.

Chapter 2: Literature Review

PMCs and Mercenaries: What's the difference?

To begin, there needs to be clarity of some terms and concepts. This thesis discusses conflicts which involved mercenaries and/or PMCs. While the two groups are to some extent, different, this thesis largely treats them as the same group because of data limitations. However, some means exist to define and distinguish between the two groups. There needs to be an understanding of what PMCs are and how they differ from mercenaries. Faite (2004) says “According to Article 47 of Protocol I [of the Geneva Convention], a mercenary is any person who:

- (a) is specially recruited locally or abroad in order to fight in an armed conflict;
- (b) does, in fact, take a direct part in the hostilities;
- (c) is motivated to take part in the hostilities essentially by the desire for private gain and, in fact, is promised, by or on behalf of a Party to the conflict, material compensation substantially in excess of that promised or paid to combatants of similar ranks and functions in the armed forces of that Party;
- (d) is neither a national of a Party to the conflict nor a resident of territory controlled by a Party to the conflict;
- (e) is not a member of the armed forces of a Party to the conflict; and
- (f) has not been sent by a State which is not a Party to the conflict on official duty as a member of its armed forces.” (Faite, 2004, pg. 169)

As noted by Faite (2004), the above definition of a mercenary can be said to have

many flaws which arise from a very narrow definition of the term “mercenary.” Among the flaws is the fact that many private contractors working in Iraq today are members of coalition forces in Iraq such as America, Britain, Poland, etc. These contractors are not part of the coalition, but they are *nationals* of countries which are part of the coalition, as per (d), above. Because many contractors are US, Iraqi, or British citizens, they are categorically excluded from the definition of mercenary by (d) and (f) above, even if they are private soldiers who otherwise closely fit the definition of a mercenary. This results in what is essentially a skirting of the intent of international agreements banning the use of mercenaries. Article 47 of Protocol I of the Geneva Convention is but one example of the attempts in legal circles to define a mercenary, and the difficulty of doing so in a legally precise manner.

Singer (2003) describes the difference between mercenaries and PMCs as, essentially, organizational structure and professionalism. Singer (2003) describes mercenaries as unorganized, secretive, and often lacking professional credentials. He characterizes PMCs as organized, open, professional, and incorporated. There are limitations to this definition. An argument might be made the only real differences between PMCs and mercenaries appear to be incorporation or levels of organization. For example, some mercenaries were/are former members of professional militaries, just like many (but not all) PMCs. One example of a classic mercenary who had both a military and police background is Gilbert Bourgeaud, aka “Colonel Bob Denard,” who served for a time in the French Navy and as a policeman in Morocco. (Dominguez & Vignaux,

2003) The example of Bourgeaud suggests not all “mercenaries” are unprofessional individuals with little or no formal military training. Individual mercenaries might have formal and professional military training but lack formal military structure or organization. This discussion will not be explored further in these pages.

An additional complication in definition is that PMCs are not a homogeneous group. There are a variety of roles which PMCs fill and services they provide. Singer (2003) identifies three broad categories of PMCs: Military Provider Firms, Military Consultant Firms, and Military Support Firms. Military Provider Firms provide direct combat support (such as artillery, air forces, etc.), or full-spectrum combat operations (i.e. independent direct combat units). Military Provider Firms are the most visible and controversial of PMCs, in part because they most closely resemble mercenaries and in part because they are the most likely group to be directly engaged in combat. Military Consultant firms provide advice, expertise, and training to customers. The difference between Consultant and Provider firms can become very unclear, especially when advisors follow the troops into combat. Military Support Firms typically provide logistical, maintenance, and transport services. (Singer, 2003)

The groups studied in this paper are not broken down according to Singer’s (2003) typologies. This paper accepts the data collected by Musah & Fayemi (2000), who classify all private soldiers as “mercenaries.” Musah & Fayemi (2000) do not differentiate between mercenaries and PMCs in their listings of private soldiers, the conflicts in which those soldiers were involved and the duration of the involvement. One

can look at the information collected by Musah & Fayemi (2000) and make determinations as to the nature of the private soldiers (PMC or mercenary) working in African conflicts. Comparing the groups and the work of Musah & Fayemi (2000) with Singer's (2003) three categories of PMCs reveals that the focus of Musah & Feyemi (2000) is on combat soldiers (Singer's (2003) "Military Provider Firms"). However, Musah & Fayemi (2000) also list groups or corporations which engaged in training (Singer's (2003) "Military Consultant Firms"). Thus, this thesis does not lay out an operational definition of "Private Military Contractor" or "mercenary." This thesis relies on the operational definition used by Musah & Fayemi (2000). This results in a focus on groups which provide military combat or training services for some sort of monetary compensation.

Arguments which say they should shorten duration.

One can speculate that if the winning side in a civil war hired PMCs or mercenaries the result might be a shorter civil war. Assuming the quality of the PMCs or mercenaries was sufficient to add to the overall strength of the already winning side, the defeat of the loser might be hastened. PMCs or mercenaries might also be brought into a war which is at a stalemate and unbalance the two forces so that one become superior to the other and gains victory. Ending a stalemate and/or bringing victory to one side might shorten the duration of a civil war.

The second argument presented here is one articulated by Singer (2003). His book, *Corporate Warriors* (2003), is a review of the literature, arguments, and

information on PMCs at the time of writing. Singer (2003) notes that PMCs are hired for a job and this fact leads some authors to argue that PMCs will honor their contracts.

Corporations are agencies which exist for an extended period of time and are intended to make money. PMCs develop reputations for reliability or unreliability. That is, current and potential customers can see the actions of a PMC corporation and know if that corporation can achieve the job for which they are hired. Thus, abandoning a contract or in some other way failing to uphold a contract will make future and current customers wary of the corporation. A public record of success will, conversely, attract customers to those with records of success and/or records of faithfulness to the contract and away from those who do not uphold their contracts or are not successful.

This argument can be applied to PMCs (and probably mercenaries) involved in civil wars. If PMCs are hired to become involved in a civil war, it is likely either for security purposes or to fight and destroy the enemy (government or rebels, depending on who hired them). Those PMC corporations which do not successfully provide security or the desired level of combat against the enemy will be noticed and a reputation will develop regarding the corporation. Those corporations which develop reputations for ineffectiveness will not be sought out and hired. In fact, they will be rejected in favor of those corporations which show higher levels of effectiveness. One does not hire an employee and not expect that employee to do their job. If an employee is not performing to expectation and there are other people wanting the job, the employer can find and hire those other people. Such an argument rests on the idea that there exists some sort of

developed market for PMC services, which may or may not exist. An examination of the existence of such a market will not be pursued, though this suggests an avenue for future research if there are any significant findings in this thesis.

If PMCs are hired to help end a civil war, they can be expected to end the civil war or risk developing a reputation for incompetence. Monetary or other incentives might exist to encourage PMCs or mercenaries to bring a quick end to a civil war. PMCs hired for security purposes might face a different set of incentives, but will be expected to provide the contracted levels of security for their clients.

PMCs might be expected to want to profit from a civil war, particularly a long civil war. The longer a war, the longer contractor's services will be needed and this provides job security and a steady paycheck. However, those looking to hire PMCs will look for those who have the best reputation for achieving the desired result of victory, which will bring an end to the civil war, and can do so most efficiently. As utility maximizes, PMCs might decide it is better to end wars quickly and therefore ensure future contracts rather than drag out a current conflict. The cost/benefit analysis would indicate a preference for long term goals rather than short term goals. Continuing in business and developing the reputation needed to be competitive would be a key business strategy.

An example of reputation being important to a business is recorded by Scahill (2007). He describes the company Blackwater (which changed its name to Xe and most recently to Academi; see Hodge, 2011) as using its reputation for protection to secure

prized contracts. Blackwater advertised they had always succeeded in protecting their clients, which won them the contract for protecting U.S. State Department officials around the world.(Scahill, 2007) Scahill (2007) records a number of abuses and killings of Iraqi citizens, and argues little justice was meted out. One example recorded was of an intoxicated Blackwater employee who killed an Iraqi and was smuggled out of Iraq in a car trunk. Scahill (2007) recorded this employee did not receive any punishment. These abuses angered the Iraqi people and possibly prolonged the violence in Iraq.

Eventually, Blackwater lost the contract due to excessive use of force in protecting U.S. State Department officials and the contract was given to DynCorp International. (Vardi, 2009) One can reasonably conclude from this that reputation can have an effect on the future business prospects of PMCs. If a corporation develops a reputation for making a civil war worse, or develops a reputation for ineffectiveness, then they will not be sought by future clients.

Singer (2003) notes a number of problems with the argument that reputation will affect the actions of a corporation. A key problem is the ease of disbanding and reincorporating. If a group of PMCs develop a reputation for ineffectiveness or bad behavior, they can dissolve their corporation and reform under a new company.

Blackwater changed its name to Xe, possibly because of a bad reputation gained from the Nisour Square shooting in Iraq in 2007, and other incidents in which innocent Iraqi civilians were killed by Blackwater operatives protecting their charges. However, the changing of Blackwater's name to Xe and the loss of the U.S. State Department contract

to another corporation suggest there is some validity to the argument that reputation matters.

At this point, several arguments have been advanced which make the point that PMCs, and by extension mercenaries, will increase the duration of civil wars. It would be ideal to limit our examination to just PMCs, but current data does not allow the separation of PMCs and mercenaries. The major hypothesis of this paper, that private soldiers have an effect on the duration of civil wars, should not be strongly affected by this lack of differentiation. One counter-argument has been advanced is that PMCs (and by extension, mercenaries) will reduce the duration of civil wars. The third option is the null hypothesis, that PMCs and mercenaries have no effect on the duration of civil wars. This might result from a situation where PMCs and mercenaries extend the duration in some cases and shorten the duration in other cases, depending on a variable not yet identified. Alternatively, there may simply be no effect of PMCs and mercenaries on the duration of civil wars. If such a result is found, there will need to be some effort to identify a theoretical explanation.

Arguments which say it should extend duration.

Two clear arguments for how PMCs or mercenaries extend the duration of a conflict are made by Leander (2005) and Leander & van Munster (2007). A third argument is made by Mair (2008) and Collier (1999) regarding non-state actors profiting from a war economy or a conflict situation. Leander (2005) will be examined first, followed by Leander & van Munster (2007) because they specifically deal with

arguments regarding PMCs. Mair (2008) and Collier (1999) will be examined next because their argument is targeted at a more general group (non-state actors), but they present the stronger argument.

Leander (2005) argues that security which gets privatized is not distributed equally. Privatized security covers those who are willing and able to pay. This creates holes in the provision of security. Those who cannot pay for security are not provided with security and this creates what Leander (2005) calls a “Swiss Cheese” effect. If there are holes in coverage, then security overall is decreased. This argument can be made to apply to civil war duration. If security overall is decreased, then the capacity of the government to deal with problems also decreases. Areas or zones of insecurity can be used by those conducting civil wars to build bases of operations and generate popular support. If security is not provided for all of society, then conditions might exist which will either support, or at least, fail to eliminate rebels and their strongholds. Assuming rebels thrive off of insecurity, one can see how a “Swiss Cheese” effect on security might allow longer civil wars.

Leander & van Munster (2007) argue that increasing privatization of security and a language of security as being a product provided privately results in an empowerment of private security actors. This empowerment allows private security professionals to define the issue of security and raises their opinions above those of public professionals or, more importantly, above *public officials*. Of particular concern is the possibility that private actors can take away the debate on use of force and security from elected officials

and public debate, turning it into a technical question needing “professionals” to properly answer. This creates for professionals a position of power by controlling the dialogue on security and shutting down opposition to their views. From this, they can define security in such a way that their services are required. Extrapolating from this argument, one can see security professionals as attempting to monopolize the dialogue on security and to perpetuate the need for their services, possibly through perpetuation of insecurity, or at least inefficient but possibly profitable means of dealing with insecurity.

Leander & van Munster (2007) specify one causal mechanism (control of dialogue and the definitions of security/insecurity) and a specific consequence, that of a reduction in the control of governments over the issue of security. Neither Mair (2008) nor Collier (1999) are this specific in how they describe non-state actors taking advantage of insecurity. However, all three pieces of literature argue that non-state actors seek to create opportunity for profit from insecurity. Leander & van Munster (2007) and Collier (1999) clearly argue that rebels, security professionals, and non-state actors will seek to perpetuate insecurity so as to continue to profit from it.

Mair (2008) describes the environment of failed states and argues that violent groups such as “[c]lassic rebel movements, criminal and youth gangs, and ethnic, tribal, or clan militias, vigilantes, traditional hunters, and warlords...” (Mair, 2008, pg 53) contribute to an inability of the government to provide security. These groups profit from government weakness in *failing*, not *failed* states. As long as there is a weak government structure to exploit, these groups can make a profit. A key theme in Mair’s (2008)

argument is that private actors of violence profit from insecurity and perpetuate this insecurity. Very much in line with the arguments made by Collier (1999), groups profit from violence and insecurity and will seek to perpetuate this insecurity.

This argument can be applied to PMCs and mercenaries, though Mair (2008) does not mention them explicitly in his list above. There are certain environments which produce insecurity, and there will be people seeking to take advantage of that insecurity and make a profit. These opportunities for profit do not just attract non-state actors but states as well. The example Mair (2008) gave was Charles Taylor of Liberia in the mid 1990's taking advantage of Sierra Leone and the conflict they were suffering. Groups which are profiting from insecurity will seek to continue to profit and to maintain the circumstances which lead to profit. This ties into Mair's (2008) argument that states which are failing are inviting to groups such as terrorists and private actors of violence because they need a government structure to exploit. These same groups, according to Mair (2008), avoid failed states because there is no government structure. If PMCs and mercenaries can be said to profit from insecurity, then they can also be expected to look for places which maximize their profit and provide continued opportunity for profit. This is a rational actor argument, and asserts PMCs and mercenaries will work in areas which are not secure and which PMCs/mercenaries can ensure will remain insecure. Mair (2008) argues non-state actors which profit from insecurity require a government system to subvert. Profits cannot be properly extracted if a land is in a state of anarchy. Governments provide infrastructure and a certain level of rule of law. Mair's (2008)

arguments suggest PMCs or mercenaries will prefer to work with governments or in states which are *failing*, but not *failed*, so they can subvert the state laws and maximize profits.

Empirically, it is known that some PMC and mercenary groups have worked with drug cartels, rebel groups and terrorist groups. (Singer, 2003) These are typically not government run organizations, which weakens Mair's (2008) argument. An argument can be constructed which focuses on the right to govern belonging to whoever has the ability to govern, rather than whoever has the legal right to govern. Rapley (2006) describes a scene in Haiti where the government had decided it could not govern part of the city. Criminal elements decided they had to provide the services the government could not, including school resources and law enforcement. Tilly (1985) and Bates (2008) both argue government is made up of groups competing for power, with the winner emerging as the “government” through what amounts to a monopoly on violence. With this alternative conceptualization of government, it can be argued PMCs and mercenaries will attach themselves to whoever has the greatest amount of power in an area, be that the internationally recognized government, or a criminal/rebel element which maintains power in a local area.

Collier (1999) makes the argument that groups and individuals profit from conflict, and have an incentive to continue their profiting. There are four ways conflict changes economic behavior and opportunities. The first is that time horizons change. Conflict shortens time horizons and actors are more likely to seek short-term profits, at

the expense of their business partners if necessary, and are more willing to suffer the resultant reputation cost.

The second effect of conflict on the economy is an increase in theft. Fewer resources are given to the police to track down thieves. Criminals who acquire large amounts of stolen goods are unable to keep them secure in a conflict prone area, and so shift those stolen assets out of the country. This happens either by taking out the goods themselves or by converting the goods into transportable wealth and moving it out of the country. Opportunities for theft are another way some groups benefit from conflict and might work to prolong both the conflict and thereby their opportunities for profit.

Conflict can decrease competition in many areas of business. Competitors can be driven out either because of difficult operating conditions or underhanded methods. Information on alternative goods becomes more costly and access to those other goods can become more dangerous. In a conflict zone the actual volume of goods sold may decrease, but sellers may achieve a monopolistic position in their local area and thereby increase profit margins to make up for the fall in volume.(Collier, 1999) Again, this creates a group in society which profits from conflict and has an incentive to continue the conflict.

Lastly, rent seeking increases in conflict zones. Both rebels and government forces can extract rents from businesses and communities. Collier (1999) talks about the phenomenon of “government troops by day and rebels by night,” which happens when

government troops abandon their uniforms and appear as rebels in order to shake down businesses and extract rents. Rebels facing this situation attempt to establish a monopoly on the ability to extract rents.

Collier (1999) summarizes his findings by stating "...various groups 'do well out of war.' They are opportunistic businessmen, criminals, traders, and the rebel organizations themselves." (Collier, 1999, pg. 9) Indra De Soysa (2000) finds that mineral wealth in particular is associated with stunted government capacity and the outbreak of civil wars. Some minerals (such as diamonds) can be easily sold on an open market and whoever controls those minerals can profit from them. Private soldiers can also profit from conflict. The clearest example is the extraction of rents, though private soldiers can also loot or steal. PMCs and mercenaries which operate as a business might profit from shady business practices or a lack of competition. A rational choice argument will state that PMCs and mercenaries will wish to protect their opportunities for profit. This might include ensuring an environment remains insecure. This effort to promote insecurity might result in longer civil wars, when they are employed in those civil wars.

Cleary (1999) writes about Angola and the effects of the company Executive Outcomes in the Angolan civil war. He attributes the reluctance on the part of the Angolan government to sign the Lusaka Protocol (peace agreement) in 1993-1994 to the gains Executive Outcomes was making against the UNITA rebels. In fact, Executive Outcomes clearly continued to fight UNITA and he records a number of victories against UNITA. Cleary (1999) speculates the reluctance of the Angolan government to lay down

arms after coming back from the brink of defeat led directly to a prolonging of the civil war and an additional 200,000 deaths, stating UNITA had almost defeated the Angolan government when arms embargos were lifted and arms shipments to the Angolan government were permitted. New weapons, foreign combatants (in the form of Executive Outcomes), and new training for Angolan government forces (by Executive Outcomes) all combined to bring the government back from the edge of defeat and possibly discouraged an earlier or durable peace settlement.

The argument here is that the introduction of PMCs might have increased the duration of the civil war due to a qualitative change in the ability of one side to fight the other. In this case, the probable loser gained the ability to hold out longer and avoid defeat. It is possible the introduction of PMCs or mercenaries, assuming they are of some minimum caliber of quality, can prolong a conflict, particularly if they are brought in by the losing side. They may help the losers to hold out longer against the winners, or they may shift the tide and turn the losers into the winners. Further, they may simply change the balance of power so that both sides are evenly matched and allow one side to stay in the fight until the other side sues for peace.

A different take on this idea might lead to the conclusion PMCs and mercenaries can shorten a conflict, which is the subject of the following section. The causal process of this argument will be presented below.

Chapter 3: Theory and Methods

The research design centered on testing duration data from Fearon's 2004 article, "*Why Do Some Civil Wars Last So Much Longer Than Others?*" Replication data were obtained from www.stanford.edu/~jfearon. Only civil wars in countries which were listed by Fearon (2004) as being African were examined. Fearon (2004) codes conflicts as African or something else based on the ethnic qualities of the country experiencing the civil war, rather than which continent the country is a part of. For example, the countries of Algeria and Mozambique are both part of the continent of Africa and both experienced civil wars and are found in Fearon's (2004) data set. However, Algeria and Mozambique are coded as being ethnically Middle Eastern, not African, and so are not included in the data in this thesis.

Below is a list of the countries and years of conflict which are examined in this paper:

Table 1: Countries and Conflict Years

Angola (1975-2002)*	Liberia (1989-96)*
Burundi (1972-72)	Mali (1989-94)
Burundi (1988-88)	Morocco (1975-88)
Burundi (1993-2003) #	Mozambique (1976-95)*
Central African Republic (1996-97)	Nigeria (1967-70)*
Chad (1965-2002)	Rwanda (1962-65)
Chad (1994-98)	Rwanda (1990-94)
Congo (1998-2001)*	Sierra Leone (1991-2000)*
Democratic Republic of the Congo (1960-65)*	Somalia (1981-91)
Democratic Republic of the Congo (1977-78)	Somalia (1991-96)
Democratic Republic of the Congo (1996-97)*	South Africa (1983-94)*
Djibouti (1991-94)	Uganda (1981-87)
Ethiopia (1974-92)	Zimbabwe (1972-79)*
Guinea Bissau (1998-99)	Zimbabwe (1983-94)

*Conflicts indicated as having a PMC or mercenary presence.

This civil war is recorded as ongoing in Bahug, et al (2009). Other sources record the war ended in 2005. It is treated as ending in 2003 in this data set.

These civil wars were coded as having a mercenary/PMC presence or not, using information from Musah & Fayemi (2000). Almost all information on the duration of mercenary/PMC presence was supplied by Musah & Fayemi (2000). Information on the presence of PMCs in Sierra Leone came from Douglas (1999). Musah & Fayemi (2000) list a number of conflicts in which mercenaries/PMCs were present, and the dates on which mercenaries/PMCs were present. It should be noted that mercenaries/PMCs do not necessarily enter a conflict at the beginning of the conflict, nor do they stay until the end of the conflict. They are hired by parties to the conflict and they are released/terminated when the money or patience run out--or they leave of their own accord when the environment is too dangerous to be worth the money they are paid.

Fearon's (2004) data set only goes to 2000, which left a number of civil wars listed as “ongoing.” Using data from Bahug et al (2009), the data on civil war duration was extended to 2003. This allows the inclusion of more cases since several conflicts ended between 2000 and 2003. The total number of cases of civil wars amounts to 30 civil wars in Africa, with 13 of those civil wars including mercenary or PMC involvement. Cases were coded for duration of civil conflicts, presence or absence of mercenary/PMCs, and duration of mercenary/PMC presence. Duration was measured in years. Presence or absence of PMCs was coded as a dichotomous variable, with a 1 for absence and a 2 for presence.

The dependent variable in this effort is civil war duration. The key independent variables are the presence/absence of mercenaries/PMCs (dichotomous), and the duration of mercenaries/PMCs (measured in years). In addition, there are a number of other independent variables identified by Fearon (2004) which were found to have a strong impact on civil war duration. These other variables form the core of an alternative model against which the new variables, presence/absence of mercenaries/PMCs and duration of mercenary/PMC presence are tested.

Fearon (2004) measures civil war duration in years. He lists a conflict as starting when “100 people were killed [in one year] or in which a violent event occurred that was followed by a sequence of actions that came to satisfy the primary criteria.” (Fearon, 2004, pg. 279) this is intended to identify situation in which there is some sort of systematic or sustained fighting and eliminate single incidents such as massacres. Fearon

(2004) writes : “War ends are coded by observation of either a military victory, wholesale demobilization, or truce or peace agreement followed by at least two years of peace.”

(Fearon, 2004, pg 279) This is to eliminate false “ends,” such as lulls in the fighting, or cease fires in which one or both sides re-arm and re-equip their forces in preparation for continued fighting. This “fighting must be over for at least two years” standard also accounts for durable peace agreements. It is useful to be certain of the end of a civil war and the beginning of a new civil war. This, of course, results in Fearon’s (2004) data being different from those who do not use his standard to determine the end of a civil war. Fearon (2004) used a conservative standard and his is accepted in this thesis.

Using Fearon’s (2004) data, a list of wars was created. The start dates and end dates are recorded. From this, the number of years each war lasted was recorded. As an example, if a war started in 1968 and ended in 1984, then the number of years the war lasted is 16 years. This is the duration of the civil war. Next, if no mercenaries or PMCs are indicated as being present in a conflict according to Musah & Fayemi (2000), then the number of years of mercenary/PMC activity is coded as a 0. If Musah & Fayemi (2000) indicate there were mercenaries/PMCs present in a conflict, then the dates which the mercenaries/PMCs entered the conflict and exited the conflict are recorded. If mercenaries/PMCs are recorded as entering a conflict in 1974 and exiting the conflict in 1982, then the duration of the mercenary/PMC presence is 8 years. The presence or absence of mercenaries and PMCs in a conflict was also recorded as a dichotomous variable. If mercenaries or PMCs (regardless of duration) were present in a conflict, this

was indicated with a 2. If a conflict did not have any mercenaries or PMCs recorded by Musah & Fayemi (2000), this was indicated with a 1. This allows the testing of the effects of both mercenary/PMC duration and simple presence/absence on the duration of civil wars. This results in three variables which are of key interest in this paper. The first variable is the duration of the civil war: how many years it lasted. The second variable is whether or not there were PMCs or mercenaries present in a conflict. The third variable is the duration, in years, of mercenary/PMC presence. The variables of mercenary/PMC presence/absence and mercenary/PMC duration are new variables to plug into a statistical model created by Fearon (2004).

Fearon's (2004) data were used to supply the duration of civil wars, except for those wars which ended between 2000 and 2003. For information on the termination of civil wars in this time period Bahug et al (2009) was used.

Because only cases with known start dates and end dates were used, a linear regression model was used to determine if differences existed between civil wars which had a mercenary/PMC presence, and civil wars which did not. A one-way ANOVA was also conducted to compare the mean duration of civil wars in Africa which involved PMCs/mercenaries, and civil wars which did not involve them. In this way a relationship will become clear. This relationship, if any exists, will indicate if mercenaries/PMCs extend or reduce the duration of civil wars. Cases which were ongoing in both Fearon's (2004) and Bahaug et al (2009) were dropped from the data set, so that linear regression could be used to test the models.

Additional variables were also examined, to test whether these factors had a stronger effect than the presence or absence, and duration of presence of mercenaries/PMCs. These other variables came from Fearon's (2004) data set, where he found them to have an effect on civil war duration, based on a sample of civil wars all around the world. They act as a set of control variables against which the new variables of PMC/mercenary presence and PMC/mercenary duration are tested. In this study, the dependent variable is civil war duration. The independent variables are PMC/mercenary presence/absence, and duration of PMC/mercenary presence. Control variables are coups/revolutions, presence or absence of contiguous borders, Sons of the Soil type conflict dynamics, contraband financing, ethnic fractionalization, lagged GDP per capita, lagged log of the population, Fearon's (2004) assessment of whether the war was an ethnic war or not, lagged Polity II score, and the log of death and duration.

These variables were grouped into two key categories. The core group of variables came from Fearon (2004), who presented a list of variables with the largest impact on civil war duration (see Fearon, 2004, Table II, pg. 285). This core group formed a model against which to test the new variables; mercenary/PMC absence or presence, and duration of mercenary/PMC presence. The core variables from Fearon (2004) are: Coup/Revolution, Not Contiguous, Sons of the Soil, and Contraband. One variable, Eastern Europe, was omitted because all the cases came from Africa. Other variables which were added to the core model include Ethnic Fractionalization, Lagged GDP per capita, lagged log of population, ethnic wars, lagged Polity II score, and the log

of death and duration. Each of these latter variables was fed into the model of the core variables, one at a time. This results in a linear regression model which tests the statistical significance of each of the variables.

The reason Fearon's (2004) variables are chosen is because his variables have been found, through an inductive process, to have a large impact on civil war duration. This presents a difficult set of variable against which to test new variable. If a new variable affecting civil war duration is to be tested and introduced to the existing body of civil war duration research, then that new variable must stack up well against existing variables. It is useless to add a variable to the existing literature if already existent variables provide equal or better explanatory power. Fearon (2004) provides both a robust data set from which to pull duration data, and a series of robust variable which affect civil war duration. This presents a single place from which to gather the majority of data and a series of variables which are robust and already coded. This eases the testing of new variables might affect civil war duration.

The following is a brief description of the variables which Fearon (2004) presents in his paper and are used to create the models used in this paper. While there are theoretical justifications and explanations for each of these variables, it bears mentioning that these variables were arrived at inductively. The justifications for these variables would seem to be post-hoc. This is not intended to denigrate Fearon's (2004) work, but to alert the reader that these variables do not fit into a coherent theoretical framework. Instead, Fearon (2004) has focused on the patterns which have emerged empirically.

Their description and theoretical explanations are detailed below.

Fearon (2004) finds that coups and revolutions are significantly shorter and less bloody than other types of civil wars. Fearon (2004) defines coups as “civil wars between groups that aim to take control of a state, and that are led by individuals who were recently members of the state’s central government, including the armed forces.” (Fearon, 2004, pg. 280) Revolutions are a “civil war that, at its outset, involved mass demonstrations in the capital city in favor of deposing the regime in power.” (Fearon, 2004, pg 280) Ultimately, this variable is included in this paper because of its significance in predicting the duration of civil wars. It would be interesting to know if coups and revolutions are more or less likely to employ mercenaries or PMCs, and if this has any effect on the success or failure of coups and revolutions. It would seem likely that coups are more apt to bring in outside forces or the guns for hire to help oust the current regime. Revolutions seem more likely to rely on popular support, and might hire mercenaries or PMCs to train fighters, but might not need them to do actual fighting.

Anti-colonial wars, which Fearon (2004) classifies as civil wars as long as they meet his criteria, were found to be very brief. While not every researcher defines anti-colonial wars as civil wars, Fearon (2004) makes the argument that before the colony splits from the metropole, colonizer and colony are one state. Upon a successful anti-colonial war, there exist two separate states. Since there were a significant number of anti-colonial wars in Africa, it is important to include this variable.

Fearon (2004) finds that civil wars with non-contiguous borders are no different

in terms of duration than other civil wars. Therefore, they were not included in this thesis.

They were tested, and consistent with Fearon (2004), no relevant results were found.

Civil wars with non-contiguous borders are wars in which the areas of fighting are separated “from the land mass of the capital city by at least 200 kilometers of water or by international boundaries...” (Fearon, 2004, pg 282) Colonial wars in which the colonies are separated from the metropole by a body of water (an ocean, for example) or by the borders of other states, match this definition of a civil war with non-contiguous borders.

The next variable examined was the “sons of the soil” phenomenon which Fearon (2004) explored. Fearon’s (2004) “sons of the soil” civil wars are wars in which an ethnic minority fights to protect itself from an ethnic majority the examples given by Fearon (2004) are situations in which the ethnic majority faces population pressure in their traditional lands and move to areas inhabited by ethnic minorities (often with government help). The second scenario Fearon (2004) describes is a situation in which the government seeks to exploit oil or other riches without sharing with the local population. Fearon (2004) codes a civil war as a “sons of the soil” war if “the civil war involves an insurgent band fighting on behalf of an ethnic minority on the periphery of a state dominated by another ethnic group; against the state’s military or paramilitary formations, and/or members of the majority groups who have settled as farmers in the minority group’s declared home area; and involves either land conflict with migrants from the dominant group or conflict over profits and control of fuel or mineral resources in the minority’s home area.” (Fearon, 2004, pg 283) These cases are included because they

represent significantly longer civil wars than the average. While Fearon (2004) finds that most of these civil wars are in Asia, there are still a number of them in Africa (four: Mali, 1989-1994, Chad, 1994-1998, Zimbabwe, 1972-1979, & Sudan, 1983-2003). This variable is included both because of the strong effect Fearon (2004) found, and because it presents another challenge to the new duration variables explored in this paper.

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A key variable tested by Fearon (2004) and included in this study was contraband financing of civil wars. This variable is of particular interest because the potential for contraband financing from diamonds, illegal drugs, etc., would attract mercenaries and PMCs. Fearon (2004) notes that ethnic diasporas and aid from foreign states are other sources of significant rebel financing. The opportunity for profit seems likely to attract

private soldiers of fortune, as noted in different places in the pages above. In fact, there seems a particular danger of covariance between the opportunity for profit and the presence of mercenaries and PMCs. However, tests of covariance indicated that covariance is well within acceptable limits. Fearon (2004) turns to secondary sources to identify whether contraband financing provides a significant part of rebel financing or not, and codes the cases according to his findings. There is a significant amount of difficulty in measuring levels of contraband financing since much of it is unrecorded, secret, or in other ways inaccessible. Fearon (2004) also notes that contraband financing may not be a useful variable to predict civil war duration. It is possible that any rebel group which manages to exist for some specified amount of time will develop some sort of financing infrastructure which is reliant on contraband. This would suggest there is some risk that contraband financing may either have a covariance effect or it may be related to an intervening variable. Fearon (2004) is saying that long civil wars might be causing contraband financing rather than contraband financing resulting in long civil wars. This suggests another research question: which direction is the causal arrow pointing? Is contraband financing a cause or a result of long civil wars? This research question is not pursued further in this paper.

Ethnic heterogeneity is included as a test variable. There is an expectation that highly fractionalized societies result in longer civil wars. Fearon (2004) finds this to be a correct expectation, though he notes the finding is measurement sensitive. Ethnic fractionalization is measured using methods described in Fearon and Laitin (2003).

Per capita income is another variable identified by Fearon (2004) to have a large impact on civil war duration, though not a statistically significant one. Fearon (2004) tests variables using both a bivariate and a multivariate Weibull regression, which allows for right censoring (due to the fact that many of his civil wars were ongoing at the time of study) and presents a measure of the impact which each variable has on civil war duration. This measurement allows researchers to say a particular variable will make a civil war three times longer, or is likely to cut duration in half, assuming all other variables are held at their mean. Fearon (2004) finds that per capita income is statistically insignificant but does demonstrate an effect in the negative direction. More wealthy countries have shorter civil wars. However, further tests controlling for civil wars in Eastern Europe and contraband financing largely washes out the effect of per capita income. It is included in case it yielded any results when combined with the presence and duration of mercenaries and PMCs.

Country population is included because larger countries tend toward longer civil wars. This is measured by inputting the log of the country population numbers. Fearon (2004) finds the effects wash out when controlling for “sons of the soil” dynamics and are less likely to have a coup or revolution, which tend to be of shorter duration.

Fearon (2004) examines the effect which ethnic tension/hatred might have on civil wars. These are “ethnic” civil wars. He codes conflicts according to whether the fighting was carried out by, or primarily organized along ethnic lines. Fearon (2004) codes for non-ethnic cases, mixed or ambiguous cases, and for clearly “ethnic” cases. Fearon

(2004) finds that ethnic civil wars last a little longer than non-ethnic civil wars. It is possible that the effect will be stronger on the continent of Africa, if African civil wars are particularly more “ethnic” than civil wars in other parts of the world.

Democracy is believed to have a strong impact on the duration of civil wars. If people have institutional paths and frameworks for addressing grievances, then there may be less reason to fight or fight for a long time. First, if grievances can be addressed by means other than war, then civil wars are less likely to break out in the first place. Those same alternative channels of conflict resolution may work to shorten civil wars as well. As Fearon (2004) notes, civil wars in democracies could be more difficult to end due to the nature of any conflict being so strong that existing dispute settlement mechanisms are not up to the task of resolving it. Democracy is measured using Polity IV scores. In the end, Fearon (2004) does not find that democracy has much effect in either direction on civil war duration.

The cost of a civil war has been hypothesized to affect its duration. If a war is costing a large number of lives, there may be incentive to settle differences and end it quickly. Fearon (2004) calculates and inputs the log of the average lives lost per year. He finds a relationship between costs (lethality) and civil war duration. However, he finds the relationship disappears when controlling for the “sons of the soil” dynamic. Fearon (2004) notes that “sons of the soil” wars tend to have low casualty figures and drag on a long time. Other civil wars tend to have higher casualty figures and shorter durations.

Chapter 4: Findings and Analysis

In short, none of the variables examined displayed statistical significance. The new variables, mercenary/PMC presence/absence and mercenary/PMC duration fail to achieve statistical significance. However, Fearon's (2004) variables also failed to achieve statistical significance. There are a number of factors which may have resulted in statistical insignificance for both Fearon's (2004) variables and the new variables. The reasons for statistical insignificance of Fearon's (2004) variables in this thesis may arise out of the fact that a subset of the original sample is used, rather than the full sample of civil wars. Second, the civil wars examined in this thesis are limited to Africa, which may mean there is some uniqueness due to region.

The first reason mercenaries/PMCs are found to be statistically insignificant is the possibility the sample of civil wars is not large enough. Civil wars outside Africa need to be examined. It is possible that more research needs to be conducted to determine with finer accuracy the duration of PMC/mercenary presence (as noted above, the PMC/mercenary duration data stop at 1998, with the exception of Sierra Leone). The fact that Fearon's (2004) variables did not prove to be statistically significant suggests that the direction of future research needs to be in the area of refining the data set and improving the information. Fearon's (2004) variables were found to be robust (except where noted by Fearon, 2004, above) when applied to civil wars *worldwide*. There might be another factor at work affecting statistical robustness in Africa. It may be that Fearon's (2004) work does not hold up well when applied to only one region, but instead only works on a

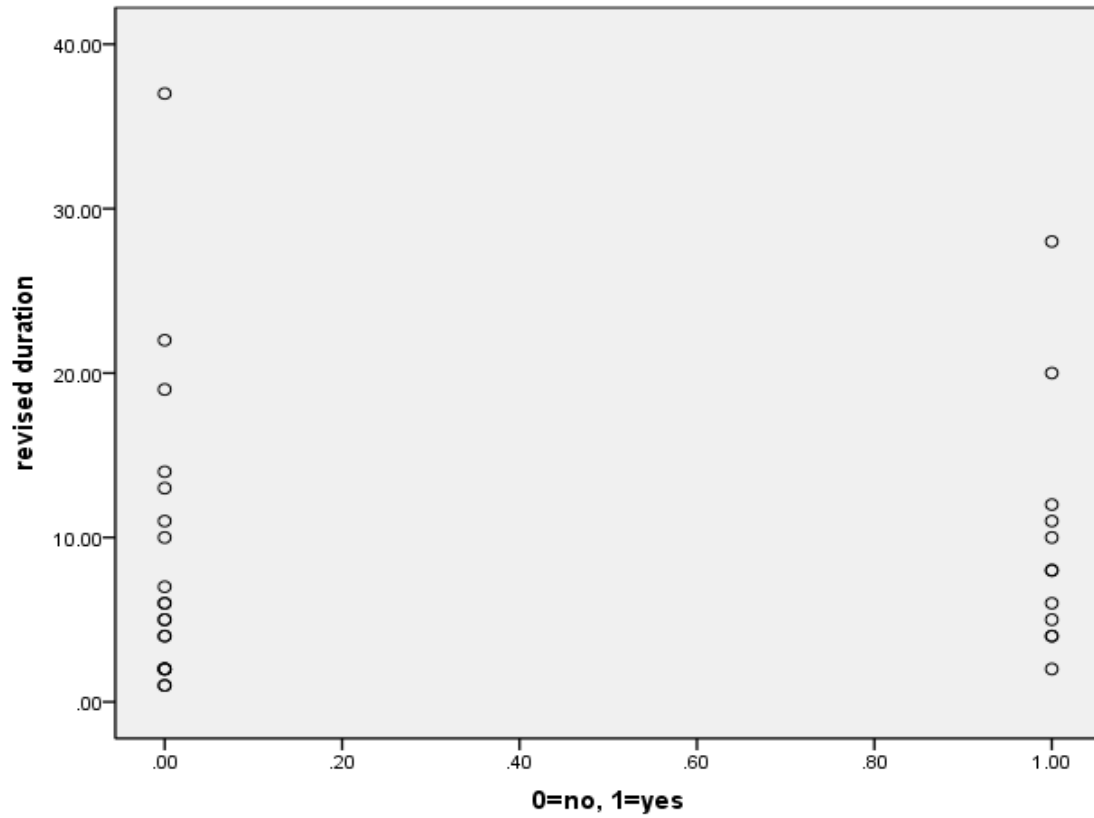
worldwide scale. At the same time, if the theory regarding the effects of mercenaries and PMCs is wrong, then statistically insignificant results are to be expected. Perhaps there is some other effect which PMCs or mercenaries have on civil wars. Or, perhaps PMCs and mercenaries have no appreciable effect on civil wars at all. Even if refinements of the data prove to not yield statistically significant results, such a result will contribute to the general body of knowledge on PMC, mercenaries, and civil wars. Even learning that PMCs and mercenaries have no real effect (if this is later determined to be the case) will be a useful finding to those doing research on PMCs and examining policy options.

While it is expected that private soldiers have some effect, positive or negative, a null result carries some implications. The debate on how best to control PMCs will likely need to take a new turn. There are those who desire to ban PMCs from conflicts (see De Nevers, 2009), and if it is shown they have no detrimental effects on civil war duration, then the debate will likely have to center around human rights abuses, the prevention thereof, control of costs, and measuring success of missions. Finding a reductive effect on civil war duration will likely have a similar effect on debates on PMCs and mercenaries. If PMCs and mercenaries are found to increase civil war duration, then the debate may shift toward consideration of attempts to ban them. As noted above, mercenaries are already “banned” by two international treaties, though countries which are not signatories to the treaties are not bound by them. PMCs are not yet regulated by international agreements, though a variety of domestic laws apply to them in some countries.

A number of diagnostics were performed to ensure robustness in tables 1 and 2. In order to check for collinearity, a Pearson correlation was performed on the independent variables. Those variables with the highest correlations are presented below though none came near the .7 cutoff, with one exception. The variables which measure the presence or absence of PMCs/mercenaries (dichotomous) and the variable measuring the duration of PMC/mercenary presence in a conflict demonstrate collinearity (a correlation of .782). This is not unexpected, the variables are merely different ways of measuring the same thing (the effect of PMCs/mercenaries), and were created from the same source. However, they are never included together in a model. They are tested separately in order to avoid any problems with collinearity. Fearon's (2004) variables are tested against PMC/mercenary presence/absence and the results recorded. Fearon's (2004) variables were then tested against PMC/mercenary duration. PMC/mercenary presence/absence and PMC/mercenary duration were tested separately because of the strong expectation of collinearity.

Graphs of the data are presented below to demonstrate the shape of the data.

Figure 1: PMC/mercenary presence/absence



On the Y axis are the duration of wars after they have been revised beyond Fearon's (2004) original data. The X axis indicates the dichotomous presence/absence of PMCs/mercenaries. As can be seen there is a slight clustering towards shorter civil war durations, but the results are statistically insignificant.

Duration of Conflict and Merc Presence

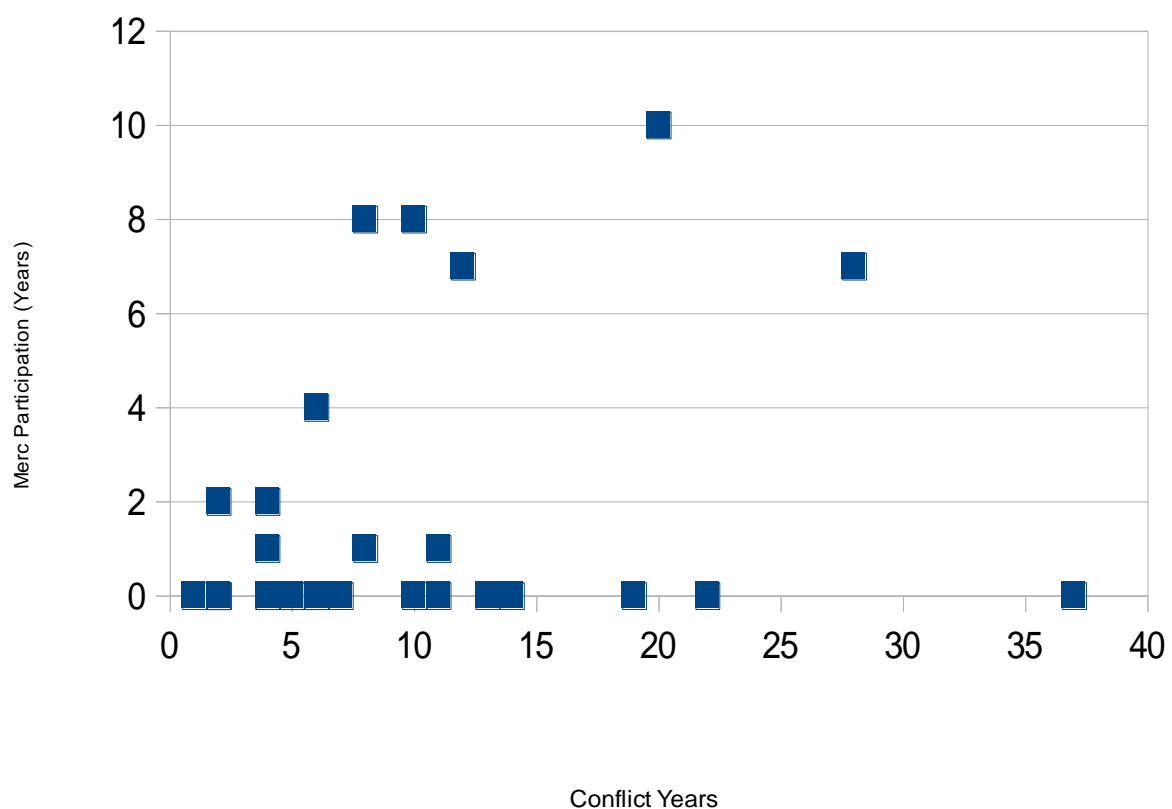
Figure 2:

Figure 2 indicates the relationship between Fearon's (2004) original estimate of civil war duration and the number of years of PMC/mercenary involvement in the different civil wars. There is a slight positive relationship between the length of a civil war and the amount of time a PMC or mercenary groups are involved in the conflict. This may indicate a relationship between longer civil wars needing private soldiers for longer

periods of time, or it may indicate some sort of relationship between the presence of PMCs/mercenaries and the lengthening of civil wars. The lack of statistical significance limits the conclusions which can be drawn from this graph.

A one-way ANOVA was conducted using the revised civil war duration data and the information on PMCs and mercenaries. The durations of civil wars which included some sort of PMC/mercenary presence were compared with the duration of civil wars which did not include any PMC or mercenary presence. The overall conclusion is that no difference exists beyond what is likely due to chance between civil wars in Africa which involve private soldiers and those which do not in terms of duration. A one way ANOVA was also conducted using the unrevised civil war duration years, and the results are included below.

Table 2: One-Way ANOVA using revised duration data

	Sum of Squares	Df	Mean Square	F statistic	Significance
Between Groups	483.182	8	60.389	.197	.962
Within Groups	613	2	306.5		
Total	1096.182	10			

Table 3: One-Way ANOVA using original Fearon (2004) duration data

	Sum of Squares	Df	Mean Square	F statistic	Significance
Between Groups	393.561	7	56.223	.307	.91
Within Groups	549.167	3	183.056		
Total	942.727	10			

As can be seen above, the F-statistics and significance levels suggest there is little variation between the two groups of civil wars, those with private soldiers and those without, which cannot be attributed to random chance.

Below are the models constructed from Fearon's (2004) article, with the added variables of interest to this paper. The numbers presented are the test of statistical significance. The threshold sought is statistical significance at the .05 level. An examination of the numbers will reveal that none of the models produces any numbers equal to or less than .05. However, the models which use duration of PMC/mercenary presence produce the numbers closest to this level.

The first equation is: Equation 1 (Duration)= $b + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4$. In this model, x_1 = PMC/mercenary presence, x_2 = Coup/revolution, x_3 = Sons of the Soil, and x_4 = Contraband Financing of Rebels. The model was then expanded by adding additional variables one at a time, resulting in the following equations:

$$\text{Equation 2 (Duration)} = b + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5$$

$$\text{Equation 3 (Duration)} = b + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_6x_6$$

$$\text{Equation 4 (Duration)} = b + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_7x_7$$

$$\text{Equation 5 (Duration)} = b + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_8x_8$$

$$\text{Equation 6 (Duration)} = b + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_9x_9$$

In these equations, x_5 = Ethnic Fractionalization, x_6 = Lagged GDP per capita, x_7 = Lagged log of population, x_8 = Lagged Polity II/IV score, and x_9 = log of death & duration. The second set of equations used PMC/mercenary duration rather than presence, which yielded the following base equation: Equation 7 (Duration) = $b + b_{10}x_{10} + b_2x_2 + b_3x_3 + b_4x_4$. In this equation, x_{10} = duration of PMC/mercenary presence. Otherwise, the equations were exactly the same:

$$\text{Equation 8 (Duration)} = b + b_{10}x_{10} + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5$$

$$\text{Equation 9 (Duration)} = b + b_{10}x_{10} + b_2x_2 + b_3x_3 + b_4x_4 + b_6x_6$$

$$\text{Equation 10 (Duration)} = b + b_{10}x_{10} + b_2x_2 + b_3x_3 + b_4x_4 + b_7x_7$$

$$\text{Equation 11 (Duration)} = b + b_{10}x_{10} + b_2x_2 + b_3x_3 + b_4x_4 + b_8x_8$$

$$\text{Equation 12 (Duration)} = b + b_{10}x_{10} + b_2x_2 + b_3x_3 + b_4x_4 + b_9x_9$$

Table 1 lists the unstandardized coefficients along with t-ratios listed below in parentheses. The number of cases in each model (the R2) is listed next to the model number at the top of each column. For those interested in p-values, they are listed in Table 2. While the unstandardized coefficients and t-ratios allow the reader to assess the performance of each variable in the model, the p-values allow the reader to assess how close or far each variable model was from statistical significance. Knowing which variables and models show the strongest performance might suggest future lines of

research.

Table 4: Model 1

	1 (30)	2 (30)	3 (30)	4 (30)	5 (30)	6 (30)	7 (29)
Presence or Absence of PMCs & Mercenaries	-.574 (-.151)	-.784 (-.203)	-1.605 (-.381)	-1.235 (-.302)	1.005 (.254)	.386 (.102)	-.682 (-.172)
Coup or Revolution	-3.834 (-.776)	-3.972 (-.793)	-3.208 (-.627)	-3.735 (-.744)	-3.684 (-.754)	-1.078 (-.208)	-4.250 (-.835)
Sons of the Soil	.802 (.177)	.754 (.164)	1.507 (.317)	.432 (.093)	-.659 (-.142)	1.820 (.405)	-.791 (-.149)
Contraband financing of rebels	3.346 (.595)	2.668 (.460)	4.589 (.757)	3.788 (.655)	5.062 (.886)	2.638 (.478)	3.419 (.592)
Ethnic Fracture from Fearon (2003)		4.569 (.616)					
Lagged GDP/cap			.002 (.598)				
Lagged Log of Population				.784 (.484)			
Type of war (Ethnic, not, ambig)					5.499 (1.269)		
Lagged polity IV score						-.523 (-1.455)	
Log (death and duration)							-.446 (-.463)

As can be seen above, the presence/absence of PMCs/mercenaries is not close to

statistical significant at the .05 level. Lagged Polity 2 scores achieve the best fit, though .159 is still well beyond the .05 standard. We can conclude that the presence or absence of PMCs and mercenaries has no measurable effect on civil war duration, given the data set used.

Duration of PMC and mercenary presence also fails to demonstrate any statistical significance. The numbers generated are presented below.

Table 5: Model 2

	1 (28)	2 (28)	3 (28)	4 (28)	5 (28)	6 (28)	7 (27)
Duration of PMCs & Mercenaries	.697 (1.158)	.690 (1.126)	.767 (1.070)	.670 (1.081)	.934 (1.565)	.930 (1.582)	.636 (1.014)
Coup or Revolution	-3.235 (-.639)	-3.237 (-.628)	-3.393 (-.648)	-3.180 (-.616)	-2.953 (-.606)	.366 (.070)	-3.656 (-.694)
Sons of the Soil	.545 (.109)	.680 (.133)	.343 (.066)	.459 (.090)	-1.338 (-.269)	1.277 (.266)	-.531 (-.094)
Contraband financing of rebels	.552 (.918)	.031 (.006)	.150 (.026)	.622 (.114)	3.328 (.616)	-.282 (-.055)	.675 (.119)
Ethnic Fracture from Fearon (2003)		3.591 (.437)					
Lagged GDP/cap			.001 (-.190)				
Lagged Log of Population				.526 (.324)			
Type of war (Ethnic, not, ambig)					7.001 (1.671)		
Lagged polity IV score						-.657 (-1.824)	
Log (death and duration)							-.310 (-.308)

As can be seen in the numbers above, none of the variables achieve statistical significance at the .05 level in any of the models. The second model comes closer to this

goal than does the first model. Duration of PMCs and mercenaries has a stronger fit than most of the other variables in the model, though both “types of wars” and “lagged polity 2 score” demonstrate the most robust relationship, with the “lagged polity 2 score” in the second model almost achieving statistical significance.

This suggests some lines for future research. Presence and absence of PMCs and mercenaries are unlikely to have an impact on civil war duration. Future efforts need to focus on how long the PMCs or mercenaries are engaged in the conflict. It is possible that further refinements in the way PMCs or mercenaries are measured may produce statistically significant results in one direction or another.

Further, this paper is focused on civil wars in Africa, and only from 1960 to 2003. It does not claim to be exhaustive, though most of the civil wars during this time period are represented, following Fearon's (2004) definition of civil war. There are two directions this research can easily go. The first is to expand across the world to measure the impact of PMCs and mercenaries on conflicts all over the world. The second direction is to expand further back in history.

To expand research on PMCs and mercenaries, it would be helpful to come up with acceptable definitions of who is a PMC and who is a mercenary. With these definitions, one can start to code incidents of PMC or mercenary involvement, and perhaps levels of involvement. From there, one can begin to construct the tools necessary to run quantitative tests, such as a fuller data set.

Chapter 5: Conclusion

At this time, no theoretically satisfactory answer can be given to explain the null result obtained in this paper. Douglas (1999) provides one case study which might illuminate some of the issues surrounding PMCs and mercenaries, and how those issues might make the outcome of using PMCs or mercenaries less clear. Douglas (1999) writes about Executive Outcomes in Sierra Leone. He argues the government of Sierra Leone was losing to the RUF (Revolutionary United Front) in the mid 1990's, and hired Executive Outcomes to turn their fortunes around. Executive Outcomes both directly fought the RUF and trained the Kamajor people to protect themselves from and fight the RUF. Douglas (1999) argues the combination of Executive Outcomes direct engagement against the RUF and the work of the Kamajors fighting against the RUF put the rebels on their knees. Military victory was then not consolidated by the government in Sierra Leone. A lot of time was wasted creating peace agreements while the RUF regrouped and rebuilt. At the time Douglas (1999) was writing, he observed that Executive Outcomes had become politically unpopular and so the government of Sierra Leone was essentially paying Nigeria to bring in soldiers and fight the RUF. One might argue Douglas (1999) demonstrates an overly fond view of Executive Outcomes and the overall contribution of private soldiers in Sierra Leone. However, the key insight he contributes here is that private soldiers do not fix a situation by themselves. They might be able to defeat an enemy in a military sense, but there needs to be a political leadership to step in and consolidate the military victory. Otherwise the enemy does not go away, but lives to fight

another day.

The point here is not intended to be that all cases of private soldier failure is due to weak political figures. The point is that additional variables may be interfering with a clear effect of PMCs and mercenaries from coming through. There may be a single variable, or there could be a number of variables. Further research is needed to determine the answer to this question. Current theory does not provide a clear answer.

It is enough for now to know that, given current information, PMCs and mercenaries do not have any clear impact on the duration of civil wars. While they may not help or reduce a conflict, it appears they may not harm a conflict, or increase its duration either. This alone is a significant finding, with implications for those who wish to introduce private soldiers into a conflict. If PMCs and mercenaries do not extend a conflict, then there is no reason to avoid using them. At the same time, if they have no reductive effect either, then there exists no reason to seek them out and use them.

It is also important to keep in mind that this conclusion comes from a data set which is not yet perfect. This is not to say the data set itself is flawed. Instead, the reader should know that this data set represents a stepping stone in a research agenda. Those who are interested in the study of PMCs or mercenaries need to push this research agenda further. Better, more detailed information needs to be collected to better flesh out the impacts on civil wars, if any, which exist.

The finding of statistical insignificance is a very unsatisfying conclusion. In much of the body of this paper, qualitative arguments based on theoretical and anecdotal

evidence suggest there should be some impact which private soldiers have on conflict. Researchers ought not to discard this body of qualitative research and theory. The findings of previous researchers seems compelling, though no clear and general pattern emerges. Perhaps the impact a force of private soldiers has on a civil war is truly random, or at least resists clear classification and prediction. Perhaps only description through hindsight can truly tell the impact a force of private soldiers will have on a conflict. Or, perhaps there are key variables which were not tested in this paper, variables which accurately predict, describe, and explain the impact private soldiers, PMCs and mercenaries, will have on civil wars and other conflicts. Further research is recommended to attempt to identify those other variables.

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